

REMARKS

Claims 1-24 are currently pending in the application. In an Office Action dated July 15, 2003 ("Office Action"), the Examiner maintained a prior rejection of claims 1-24 under 35 U.S.C. § 103(a) as being unpatentable over Guedalia, U.S. Patent No. 6,356,283 B1 ("Guedalia"). Applicants again respectfully traverse the 35 U.S.C. § 103(a) rejections of claims 1-24.

Applicants have, in previous responses, provided detailed summaries and arguments related to the 35 U.S.C. § 103(a) rejection. In the interest of brevity and conciseness, Applicants do not repeat these summaries and arguments in full in the current response, but, instead, focus below on particular aspects of the Examiner's response with which Applicants most strongly disagree. However, Applicants have included, below, rather lengthy quotes from Guedalia and the current application in order to clearly demonstrate that Guedalia is not related to the claimed invention. Applicants apologize for the resulting length of this response, but can think of no other way to clearly make their points.

Comparison of Guedalia and the Current Application

The current application, in the Background of the Invention section, describes the capabilities of standard Internet browsers that run on a client computer at the time that the current application was filed, beginning at the end of line 31 of page 1:

As one example, web page designers are able to designate portions of bit map images displayed within a web page as being "hot," or active. A web page designer may associate any of a number of different actions with each active region within a web page. When a user manipulates a mouse to move a displayed cursor over an active region, or inputs a mouse click to a PC while a displayed cursor is positioned over an active region, the associated action will be carried out. Actions may include displaying a web page or image, or invoking a software routine. The designation of active regions, and the association of actions with active regions, is accomplished through the use of server-side image maps and client-side image maps. Image maps can be thought of as the superposition of an abstract template over an image included on the web page, with the abstract template containing descriptions of the size, shape, and location of each active region as well as an association between the active region and an action. Server-side image maps are implemented on a server computer, requiring a browser running on a client computer receiving the web page to transmit input events during display of the web page back to the server computer, followed by transmission of responses from the server computer to the client computer that facilitate any actions invoked by user input. (emphasis added)

The emphasized portion of the above-quoted portion of the Background of the Invention describes Guedalia's technique, as explicitly stated in Guedalia, beginning on line 35 of column 19:

Internet browsers provide a mechanism, referred to as image maps, for carrying out this process. Image maps enable a browser to extract the coordinates of the location of the mouse pointer when the user clicks on the mouse, and send those coordinates back to the server. The server in turn receives those coordinates and calculates that sub-region within which they are situated. ... In order to calculate the sub-region within which the mouse coordinates are located, the server also needs to know the size and location of the view window; i.e. client state information. This client state information can also be sent from the client to the server, together with the mouse coordinates. Alternatively, the server can store this information in its own memory. (emphasis added)

In other words, as clearly demonstrated by the above quotations from the current application and from Guedalia, Guedalia employs server-side image maps to transform, on the server computer, mouse-pointer coordinates to image-relative coordinates. Guedalia explicitly and

repeatedly states this fact over and over again, throughout Guedalia's disclosure. For example, please consider the statement in the paragraph beginning on line 8 of column 4 of Guedalia:

The invention operates by partitioning the view window, in which the client is displaying changing images as the user navigates. The window region is partitioned in a number of different sub-regions. These sub-regions are typically not visible to the user. Whenever the user clicks on the image being displayed, the browser sends the mouse pointer coordinates back to the server. The server then calculates which sub-region these coordinates belongs to, and dynamically embeds a corresponding response image into the HTML page being returned to the client. (emphasis added)

The above-quoted statements from Guedalia concisely, completely, and explicitly represents that Guedalia does not employ image-relative coordinates on the client computer, does not store them on the client computer, and is concerned only with SERVER-SIDE techniques and implementations, not with client-side functionality employing image-relative coordinates. Guedalia explicitly states that Guedalia's "present invention provides a novel approach to clientless HTML-driven interactive image navigation over the Internet" (lines 2-4, column 4, emphasis added). Guedalia, in a paragraph beginning on line 34 of column 17, further states that:

[i]n accordance with a preferred embodiment of the present invention, the HTML pages 12 contain viewing windows which are partitioned into a plurality of sub-regions, and the server software is used to dynamically generate HTML pages in response to user selection of sub-regions. (emphasis added)

The current application includes claims directed towards method and system embodiments that involve both server-side and client-side implementations, and, in particular, to an embodiment that includes an enhanced web browser that invokes an enhanced image viewer on the client computer. Applicants' enhanced web browser and associated enhanced image viewer is described in the current application, beginning on line 6 or page 6:

One embodiment of the present invention comprises an adaptive delivery module on a server computer and an enhanced web browser with enhanced associated image viewers on a client computer. When the browser running on the client computer requests a web page that includes images and associated client-side image maps from the server computer, and when the client computer includes the enhanced web browser and associated enhanced image viewers, the adaptive delivery module running on the server computer transforms an HTML description of the requested web page to include one or more dynamic-adaptive client-side image maps and enhanced viewer invocations. The adaptive delivery module then transmits the transformed HTML web page description to the client computer where it is displayed by the

enhanced browser and enhanced image viewer. When the displayed web page contains dynamic images, a user viewing the web page may alter the display of the images within the web page by zooming and scrolling operations. The enhanced viewer on the client computer maintains defined relationships between active regions described by the dynamic-adaptive client-side image maps and regions of displayed images during user-initiated image display alterations, and correlates user input to active regions with actions associated with the active regions defined by the dynamic-adaptive client-side image maps. (emphasis added)

The enhanced web browser and associated enhanced image viewer is contrasted in the current application with the Internet browsers available at the time the current application was filed, beginning on line 8 of page 3:

For example, active regions are designated in currently-available client-side image maps in terms of resolution-dependent device coordinates. As a result, when client-side image maps are associated with dynamic images within web pages, the active regions are not automatically zoomed and shifted, or panned, along with the dynamic images. As a result, the active regions defined within the client-side image maps quickly lose their original correspondence to specific regions of the images with which they are associated. Another example of the poor integration between the above-mentioned enhanced graphics capabilities is that there is currently no easy way for programs invoked from web pages to acquire information about active regions from client-side image maps defined within web page descriptions. *Therefore, when an invoked program obtains and displays a second image, it is currently difficult or impossible for the invoked program to correlate the second displayed image with active regions defined for that image in a client-side image map.* (emphasis added)

As the Examiner hopefully can appreciate, Applicants' claimed enhanced Internet browser and enhanced image viewer is not a standard Internet browser. Guedalia uses only a standard Internet browser. Guedalia's disclosed technique relates to server-side implantations and functionality. By contrast, as carefully explained in previous responses, Applicants' claimed invention employs client-side software, in one embodiment incorporated into a client-side image viewer, that uses image-relative coordinates to coordinate active regions within displayed images during zoom, pan, and shift operations:

One embodiment of the present invention provides a method and system for implementing dynamic-adaptive client-side image maps that automatically track changes in a displayed dynamic image within a web page in order to maintain the originally specified correspondence between active regions defined by the dynamic-adaptive client-side image map and regions of the associated image displayed as part of the web page. In addition, the dynamic-adaptive client-side image map definitions are accessible to software routines invoked from web pages. In this embodiment of

the present invention, an adaptive delivery module running on a server computer determines the capabilities of a client computer requesting a web page and, when the requesting computer's capabilities are compatible with inclusion of a dynamic-adaptive client-side image map, the adaptive delivery module transforms the HTML description of the requested web page to include one or more dynamic-adaptive client-side image maps and transmits the transformed HTML description of the web page to the requesting client computer. A web browser running on the requesting client computer receives the transformed web page and instantiates an appropriate image viewer based on tags within the transformed HTML description of the web page. The web browser provides the instantiated viewer with parameters describing any dynamic-adaptive client-side image maps within the transformed HTML description of the web page, and the instantiated viewer then processes the parameters to produce data structures that describe active regions within the image displayed by the viewer as part of the total display of the web page. The information contained within the data structure can be used at run time, during the display of the web page, by the instantiated viewer to correlate user input with active regions of the displayed image. The server-side adaptive delivery module parses standard HTML client-side image map descriptions to produce transformed HTML web page descriptions. Thus, web page designers can enjoy the enhanced capabilities provided by dynamic-adaptive client-side image maps without learning and employing new HTML constructs. In order to make use of dynamic-adaptive client-side image maps, the web page designer needs only to include one additional tag in the HTML specification of an image. When the web page is served by a server that includes an adaptive delivery module, and when the served web page is displayed on a computer with a browser and associated viewers capable of processing dynamic-adaptive client-side image maps, the maintenance of the originally specified between correlation of active areas defined in the dynamic-adaptive client-side image maps and regions of displayed images occurs automatically.

The above-contrasted aspects of the currently claimed invention are clearly claimed in claims 1, 11, and 18, with the italicized portions of the claims particularly relevant:

1. A method for associating an active region with a corresponding position within an image included in a page displayed *by a browser running on a client computer*, the method comprising:

sending a request by the browser to a server for a description of a page that includes a specification of the image and an associated client-side image map, the client-side image map specifying a shape, size, and location of the active region within the image and specifying actions to be performed in response to input events directed to the active region;

receiving from the server in response to the request a description of the requested page that includes an invocation of a viewer for displaying the image, the invocation including parameters that describe the image and the client-side image map;

instantiating the viewer and passing to the viewer the parameters included in the invocation;

storing by the viewer representations of active regions within the image in image-relative coordinates along with indications of the actions to be performed in response to input events directed to the active region; and

when an input event is detected by the browser during display of the page,

passing the input event by the browser to the viewer, and

when the viewer determines that the input event was input to a position within the image corresponding to the active region, determining an action specified for performance in response to the input event to the active region and calling for performance of the determined action.

11. A method for serving a description of a page from a server to a browser running on a client computer that requests the page, the description of the page provided to the browser by the server containing an invocation of a viewer, the invocation including parameters that specify an image included in the page and an active region within the image, the method comprising:

receiving a request from the browser by the server for a description of the page that includes a specification of the image and an associated client-side image map, the client-side image map specifying a shape, size, and location of the active region within the image and that specifies actions to be performed in response to input events directed to the active region;

retrieving a description of the page;

determining the capabilities for viewing pages provided by the browser running on the client computer; and

when the browser, running on the client computer, is capable of accepting display altering commands from a user while displaying a page,

parsing the description of the page to find the specification of the image and the client-side image map included in the page,

substituting, in the description of the page, an invocation of a viewer for the specification of the image and the client-side image map included in the page, including in the invocation parameters that specify the image and the client-side image map, to create a transformed page description, and

sending the transformed page description to the browser.

18. A system for displaying a page that includes an image and an active region correlated with a particular portion of the image, the display of the page modifiable during the display of the page on a display device of a client computer such that the active region within the image remains correlated with the portion of the image, the system comprising:

a browser running on the client computer that displays the page;

a server that receives a request from the browser for a description of the page and that provides a description of the page that *contains an invocation of a viewer, the invocation including parameters that specify an image included in the page and an active region within the image;* and

data structures on the client computer that store image-relative indications of the particular portion of the image associated with the active region and actions and actions to be performed in response to input events directed to the active region.

The Examiner's Response to Arguments

In the Examiner's Response to Arguments, section 7 of the Office Action, on page 12, the Examiner states:

Applicants argue that Guedalia teaches away the invention since in Guedalia there is no specialized client-side software is [sic] used, other than an Internet browser which is already resident on the client computer, and by contrast, the current application is an [sic] method and a system in which the client's Internet browser instantiates a viewer as directed by an invocation included in a page description by a server (Remarks, page 10). Examiner respectfully disagrees. As admitted by Applicants, the Internet browser is used at the client in Guedalia to view the image. Therefore, Guedalia discloses the client's Internet browser as argued.

If Applicants correctly understand this statement, the Examiner is suggesting that because Guedalia discloses use of an Internet browser, Guedalia therefore discloses use of the enhanced Internet browser and an enhanced image viewer that together represent one embodiment of Applicants' claimed invention. Applicants admitted nothing related to this statement in the previous response. Instead, Applicants stated:

Guedalia explicitly states, in lines 52-55 of column 4:

A key feature of the present invention is that *it operates without the use of special client software, other than an Internet browser which is already resident on the client computer.* (emphasis added)

In other words, Guedalia explicitly states that a key feature of the technique disclosed in Guedalia is that no specialized client-side software is used, other than an Internet browser.

What Guedalia is stating, in the above quoted passage, is that a key feature of Guedalia's invention is that it requires nothing more on the client side than a standard Internet browser. As carefully explained in the current application, and in previous responses, *Applicants' claimed invention employs specialized client-side software in addition to a standard Internet browser, in one embodiment included in an enhanced Internet browser that can invoke an enhanced image viewer.* In other words, while Guedalia requires nothing more than a standard Internet browser, Applicant's invention includes specialized client-side software that may be incorporated within an enhanced Internet browser and enhanced image viewer. The fact that Guedalia states that Guedalia's technique needs nothing other than a standard Internet browser does not, as apparently stated by the Examiner, suggest or disclose Applicants' enhanced Internet browser and enhanced image viewer. Indeed, Guedalia does teach away

from the currently claimed invention, because Guedalia explicitly states that a *key feature* of Guedalia's invention is that only a standard Internet browser is used. Guedalia's approach exactly represents an approach described in the Background of the Invention section of the current application, as discussed above.

In the section 7, the Examiner further states:

Applicants argue that Guedalia's technique does not involve storage of image-relative coordinates on a client computer but instead the client computer furnishes to a server computer mouse-pointer coordinates which are simply relative to the outer boundary of the page displayed by the browser. Examiner respectfully disagrees. The fact that the client computer furnishes to a server computer mouse-pointer coordinates suggests the storing feature. If a client computer does not store the image-relative coordinates, the client computer would not have any coordinates [sic] data to furnish to the server. Guedalia also discloses storing image-relative coordinates (col 4, lines 24-35: "...thus by caching these images within the client, the client provides an instant interactive response whenever the user navigates back to the same image ...").

The Examiner appears to argue that because mouse-pointer coordinates are furnished by a client computer to the server computer in Guedalia, the client computer must be storing image-relative coordinates and that if the client does not store image-relative coordinates, the client could not then possibly furnish mouse-pointer coordinates to the server computer. Applicants respectfully disagree.

Image-relative coordinates are computed and stored by an enhanced viewer that represents one embodiment of Applicants' claimed invention. By contrast, a client computer running a standard Internet browser does not need to store image-relative coordinates, and does not do so, and yet the client computer running a standard Internet browser has no problem acquiring and forwarding to the server computer mouse-pointer coordinates. Forwarding mouse-pointer coordinates to servers is a standard technique that predates even Internet browsers. Caching of images by a client computer is also a very well-known technique, and has nothing to do with image-relative coordinates. Image-relative coordinates are employed to relate active regions defined within an image to locations within a displayed image – images lacking active regions can be easily cached and displayed without calculation or storage of image-relative coordinates. Cached images are generally stored as files within a sub-directory allocated for caching of images, and can be referenced and accessed for display using nothing more than a file access path describing the location of the

image. As discussed above, Guedalia explicitly states, over and over, that Guedalia employs the standard mouse-pointer-coordinate forwarding technique of standard Internet browsers. Guedalia explicitly states that all image-relative calculations are carried out by the server. Guedalia neither mentions nor suggests calculation or storing of image-relative coordinates on a client computer, as far as Applicants can tell. The Examiner has made unsupported and unsubstantiated inferences based on Guedalia, but has yet to demonstrate any support for those inferences in Guedalia.

Finally, in the section 7, the Examiner further states:

Applicants argue that Guedalia discloses a server-side image map whereas the invention is for a dynamic-adaptive client-side image map so that the client-side image map defining active regions displayed within a web page is properly maintained when the display is altered by client-side operations (Remarks, pages 11-13). Examiner respectfully disagrees. Guedalia discloses an image where the image display is altered by client-side operations such as zooming or panning (col 4, lines 35-51),

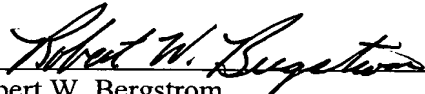
Again, Applicants' representative respectfully disagrees. As discussed above, and explicitly stated by Guedalia in several direct quotes provided above, Guedalia discloses a method where all image-display alterations are carried out by the server, and the altered images are returned to the client. In Guedalia, a server-side image map is employed by the server to perform the image alterations. In the claimed method, the zoom and pan operations are carried out by the client, using data, stored in data structures on the client computer, that includes image-relative coordinates. Indeed, in Guedalia, commands input to a client computer by a user effect alteration of a displayed image, but the alteration is carried out by a server – not by the client computer to which the commands are input. This is not Applicants' inference or supposition – Guedalia explicitly states this throughout the Guedalia disclosure.

Applicants' reiterate that the claimed invention involves client-side elements. Guedalia does not employ image-relative coordinates on the client computer. Applicants' claimed invention includes client-side viewers that calculate and store image-relative coordinates. Guedalia's key feature is that a standard Internet browser can be used on the client, while Applicants' claimed invention includes a client-side, enhanced Internet browser that can invoke a client-side, enhanced image viewer. Guedalia is completely unrelated art – and explicitly states that it relates to server-side techniques that represents techniques with

disadvantages that Applicants' invention is explicitly stated as being directed to overcome. Applicants respectfully urges the Examiner to reread the previous responses and the current application in light of the current response. Applicants' representative welcomes a telephone interview to discuss these issues..

All of the claims remaining in the application are clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

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